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ABSTRACT

The mainstream press and politicians have highlighted the application of new communication technologies in educational domains for years. Although a myriad of literature has examined the philosophical or practical concerns behind the creation of such civic improvement programs as the "electronic town meeting" or the "televote," little research has combined both theoretical and practical implications into the same analysis. The paper aims to incorporate both aspects by: reviewing the theoretical issues that communities face when implementing technology for teledemocracy projects; exploring some actual case studies of teledemocracy; and providing recommendations that communities can utilize when establishing such programs, for example, the inclusion of local universities and colleges in civic education. This last recommendation is based on the idea that institutions of higher learning provide several advantages for civic education, including the ability to furnish graduate students who are skilled in new media technologies and work for free to coordinate the program. Contains a figure, a table, 26 references, and 4 notes. (NKA)

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Teledemocracy: Using New Media Technology to Enhance Civic Education

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Introduction

The mainstream press and politicians have highlighted the application of new communication technologies in educational domains for many years. Indeed, many universities and school districts have taken advantage of innovations such as videoconferencing, audioconferencing, and the Internet to enhance student participation in the classroom and promote distance learning programs. While the influence of new media is unmistakable in educational realms, its impact in public circles has not been as widespread. Beyond the traditional classroom, for instance, many scholars have suggested that these technologies can be employed for civic education in formats such as the "electronic town meeting" or the "televote" (e.g., Naisbitt, 1982; London, 1994) yet have only been experimented with on a small scale.[i] Although a myriad of literature has examined either the philosophical or practical concerns behind the creation of such civic improvement programs, little research has combined both theoretical and practical implications into the same analysis. Consequently, this paper attempts to incorporate both aspects by: reviewing the theoretical issues that communities face when implementing technology for teledemocracy projects[ii]; exploring some actual case studies of teledemocracy; and providing recommendations that communities can utilize when establishing such programs.

Theoretical Questions

Democracy Models

One of the more crucial problems that emerges when beginning a teledemocracy program is to ascertain what role citizens will play in the political process. The choice of technology hinges on whether the purpose of the program is to merely inform citizens about salient issues or to actually allow them to directly participate in government. Thus, the model of democracy embraced by system designers must complement the technology being used for the proposed communications network. While this list is not exhaustive, the two predominant visions of democracy in scholarly debates about teledemocracy are the *direct* and *deliberative* models.[iii]

Proponents of a direct democracy model argue that new technologies should afford citizens the opportunity to directly vote on various referenda, greatly limiting the power of elected representatives (Toffler, 1980; Becker, 1981). Unencumbered participation is the primary objective. These advocates champion the Athenian agora and Old New England Town meeting conceptions where public opinion was simply measured by the "yeas" and "nays" of individual citizens. Arterton (1987) explains that direct democracy supporters believe "not only will the emerging technologies of communication make possible new forms of association and political discourse, they will also unleash strong forces for political change" (p.18).

Direct democracy networks, then, require equipment that can tally votes and publish results quickly to institute immediate changes. For example, telephone conferencing would probably not be desired in this context because tabulating votes would be difficult, but two-way cable formats with push-button response devices would be appropriate due to the ease with which participant opinions could be measured.

The deliberative model, in contrast, emphasizes the role of public discourse in the political process. Scholars assert that new media should be employed to provoke the public exchange of ideas and permit issues to be closely scrutinized before legislated (Schudson, 1992; London, 1995; Barber, 1984). Engendering debate and dialogue are the primary objectives of this outlook. Under the rubric of quantum theory, Slaton (1992) articulates that "participatory democracy requires an interaction and interconnection that recognizes that there is no objective reality for wise and virtuous representatives to discover and promulgate for the remainder of the citizenry" (p. 24). The deliberative approach strives to bind citizens together in an ongoing discussion about issues affecting their community. As a result, deliberative models demand technology that will simulate face-to-face group discussion as closely as possible. Under this perspective, telephone conferencing would be more appropriate than two-way cable systems because complex messages need to be conveyed to foster meaningful discussions.

Interactivity

Interactivity represents perhaps the most fundamental feature of new technology that must be considered when developing a teledemocracy program. The degree of interactivity available to participants is, of course, contingent upon the model of democracy planned for the community communications system. Although interactivity is an extremely intricate concept (see Williams et al., 1988; Steuer, 1992; Durlak, 1987 for detailed discussion), two of the most relevant dimensions for civic communications systems are *feedback* and *synchronicity*. The ability to control these attributes assists teledemocracy designers in finding technology that conforms to their vision of the consummate electronic town meeting.

Interactivity is often defined by the extent to which a communication experience can mimic face-to-face interactions (Rice, 1984; Bretz, 1983). Feedback, a crucial feature in interpersonal communication, refers to the ability of message receivers to respond to message senders' transmissions (Wiener, 1948). Feedback is vital to electronic public discussions because system users must have the capacity to communicate with others over the network. However, the *range* of communication available to users must adhere to the theoretical plan that designers intend for the system. Alluding to our previous example, in a direct democracy framework the range of feedback can be restricted because simple "yes" or "no" responses will suffice for citizen participation. The more important characteristics in this model are the accuracy in which votes can be tallied and the amount of information participants can receive to learn about issues. On the other hand, if the goal is to spark dialogue, then the new media chosen must allow for extensive feedback in an effort to mirror face-to-face discussion.

Another dimension of interactivity that deserves attention when proposing a teledemocracy project is synchronicity. Synchronicity refers to the degree that a communication experience occurs in real time. In other words, higher levels of interactivity are perceived when participants' information exchanges over a communications network seem instantaneous (Steuer, 1992).

The attribute of synchronicity should be carefully investigated when selecting equipment for a civic communications system. Similar to feedback, the importance placed

on providing a real time network rests upon the conceptual goal underlying the communications system. Thus, if the objective for a community project is participation, synchronicity is not as essential because system users do not need to reply instantaneously to one another. On the other hand, a discussion model necessitates synchronous communication because the system endeavors to resemble face-to-face dialogue. Of course, a worthwhile discussion could occur in an asynchronous environment (e.g., a listserv), but it would not correspond to the ideal Athenian or New England Town meeting vision that underscores the deliberative model.

Hence, communities would be well-served to scrutinize the conceptual questions of democracy and interactivity when adopting technology for electronic town meeting projects. By first determining what the primary goal of their system is (participation or discussion), designers can integrate innovations that suit the purpose of the network in terms of interactive attributes. Figure 1 below supplies a visual explication of how the selection process might look on a theoretical level.

- - - Figure 1 about here - - -

Case Studies

Before delving into some specific case studies, Table 1 is offered below as a condensed summary of the various case study examples.

- - - Table 1 about here - - -

Internet

Santa Monica, California

On February 21, 1989, Santa Monica launched the Public Electronic Network (PEN), the first government sponsored computer-based on-line network in the United States (Varley, 1991; Kirschner, 1994). PEN provides Santa Monica residents access to public information such as city council agendas and staff reports, the ability to communicate opinions and needs to the city government and to other citizens, and a forum for up to 64 simultaneous users to discuss community issues (Kirschner, 1994; Schuler, 1994). In addition, the free, 24-hour service furnishes electronic mail for residents to e-mail each other or city officials (Kirschner, 1994; Cohen, 1993). For residents who did

not have home computers, the city made 25 public terminals available at city hall, libraries, recreation centers, and elderly housing complexes (Kirschner, 1994; Cohen, 1993; Varley, 1991).

Because PEN emphasizes the exchange of ideas, the scrutinization of issues, and maintains ongoing discussion, PEN uses the deliberative democracy model in which the public's role is discussion. Moreover, PEN has high feedback because users are able to respond to the senders' messages. However, PEN contains characteristics of both high and low synchronous technologies. People can receive information immediately through chat rooms or receive delayed information in bulletin boards or via e-mail.

Benefits from the system

PEN's benefits are numerous. First, it provides citizens with direct access to city government. It is also always accessible and grants housebound people a way to socialize (Varley, 1991, p. 49). Further, it eliminates social barriers because users cannot see each other and, therefore, judge one another solely by what one says. PEN has had a direct impact on the city too. A group of PEN users formed an on-line political organization that lobbied successfully for new city services for the homeless (Varley, 1991, p. 43). Additionally, PEN provides residents an educational forum to voice opinions and increases their knowledge about city issues as opposed to a traditional classroom-type setting[iv] in which officials instruct the public in what to think and how to think about issues.

Problems with the system

Although the city has witnessed numerous benefits from the system, they also have run into many difficulties with the on-line discussions. First, they had a problem balancing First Amendment rights with the flow of community discussions. Because PEN is government-operated, it cannot delete statements unless the statement is slanderous or illegal (Kirschner, 1994). However, this inability to delete statements has produced problems because people go off on tangents during discussions, which interrupts the conversational flow. In an attempt to solve this problem, Santa Monica is currently using moderators to sift through messages and post them to the appropriate discussion groups (Kirschner, 1994).

Second, PEN initially had problems with men harassing women on the system, which included badgering and posting violent fantasies about specific female users. As a result, many women quit using the system. For those women who remained on the system, a support group was formed in July 1989 to respond to the harassment, and consequently, many women returned (Varley, 1991).

Additionally, a small core of users who were inclined to be rude and disrespectful of others dominated the system. In fact, many public officials no longer participate in on-line discussions due to the intense scrutiny, attacks, and general rudeness of these users (Varley, 1991).

Because of problems such as harassment and rudeness, the system's designer believes the city should have started the system with a set of community and business leaders and city agency heads so this group could set the tone for the whole system (Kirschner, 1994; Varley, 1991). Finally, the system's use is not widespread. In a city of 96,000, they only have 5,200 residents who have used the system (Varley, 1991; Cohen, 1993).

Interactive Video and Internet

Alaska

Since 1979, Alaska has provided constituents two ways to interact with their legislators and state agencies. The first means is the Legislative Information Network (LIN), which offers citizens information on state government including copies of reports and bills and electronic mail service to the state legislators (Arterton, 1987; "High tech," 1982; Harter, 1993).

The second means of communication is through the Legislative Telecommunication Network (LTN). This system of two-way video conferencing allows legislators and agencies to hold hearings with constituents (Arterton, 1987; "High tech," 1982; Harter, 1993). Although the state has more than 70 LTN sites, the system can only include six sites in a teleconference. However, all citizens can view the proceedings at the LTN sites and may call into the network if they wish to speak (Arterton, 1987).

Based on the LIN and LTN's facilitation of public discourse, the Alaska program follows the deliberative democracy model where dialogue is emphasized. In terms of interactivity, both networks maintain high levels of feedback, but the LIN has low synchronicity whereas the LTN has high synchronicity.

Benefits from the system

The combination of the LTN and LIN greatly benefit Alaska. First, it "allows for widening of the pool of witnesses and greater diversity in viewpoints" (Arterton, 1987, p. 111). Consequently, Alaskans' understanding of the state's issues and of each other's point of view is broadened. They also are able to have a direct impact on their government. Moreover, many citizens participate, and the numbers are rapidly increasing. For example, more than 17,000 citizens participated in LTN conferences in 1984, which was twice the participation rate in 1980. With more than 70 sites throughout the state, both systems also afford extensive access. Finally, these systems save the state travel money and lost lives due to the state's treacherous conditions ("High tech," 1982).

Problems with the system

Although Alaska's network is outstanding, there are a few problems. First, the government has the power to control the issue agenda presented to the public via the LTN (Arterton, 1987). Nevertheless, citizens can control the types of issues discussed in their e-mails to their legislators. In addition, both systems are less convenient. One must travel to the sites for videoconferencing or to simply watch the proceedings, and one must own a computer with Internet access to use the LIN.

Video and Telephone

North Carolina

North Carolina instituted its Open Public Events Network (OPEN/net) on March 22, 1983. The network serves 51 cable systems—approximately 20 percent of the state's population. The network broadcasts a two-hour meeting on an issue followed by a one-hour call-in session to a panel of state legislators in which citizens convey opinions or raise questions (London, 1994; Arterton, 1987).

Considering that OPEN/net allows citizens to ask questions and offer opinions, it exemplifies the deliberative democracy model. Moreover, OPEN/net is a high feedback and high synchronicity system due to its instantaneous response time and the ability of users to speak directly with policymakers.

Benefits from the system

One of the system's main advantages is its use as an educational tool. Since the issues presented are currently being debated in the legislature, OPEN/net grants citizens the opportunity to learn and provide feedback about current issues facing the state (Arterton, 1987). Moreover, Arterton (1987) says the network protects fairness and neutrality through a committee of citizens who select the issues and the guests. Thus, the public is able to set the agenda. Besides agenda setting, OPEN/net uses telephones and television, which are readily accessible to citizens. Because it is available in their homes, OPEN/net is convenient for a broad range of citizens.

Problems with the system

Despite the system's numerous benefits, it only reaches a small percentage of the state (Arterton, 1987). Therefore, access issues surface. According to Arterton, moreover, most of the calls come in when other channels are on commercial breaks at the hour and half-hour, so the network's educational influence and effectiveness is questionable.

Video and Televoting

Honolulu, Hawaii

Beginning in 1978, a University of Hawaii political science professor held electronic town meetings (ETMs) in Honolulu on issues ranging from welfare to nuclear arms (Arterton, 1987). According to the professor, the purpose of these meetings was "to provoke public discussion by giving visibility to issues that are generally ignored in the speeches of politicians or news coverage" (Arterton, 1987, p. 81). Before each meeting, he would run an announcement in the major newspaper that described the project and explained the issue's pros and cons. Then he would solicit the public's opinions by

telephone and mail after viewing a television program that presented both sides of the issue (Arterton, 1987). The following morning the newspaper would print the ballots.

Because Honolulu's ETM permits citizens to express their opinions by voting rather than speaking, it most closely resembles the direct democracy model in which participation is the emphasis. Moreover, the delay in tallying all the votes and citizens' inability to verbally respond to the programs produces a low feedback, low synchronistic environment.

Benefits from the meetings

One of this form's major strengths is its use of two technologies that 98 percent of Americans possess—television sets and telephones (Barrett & Greene, 1985). Secondly, the professor has found a creative way to capture the audience's attention by using theater to dramatize the issues (Arterton, 1987). Finally, his ETMs do provide the citizenry an opportunity to learn about political issues and become involved in politics.

Problems with the meetings

One of the biggest programs with this ETM was its inadequate telephone system. It only had four telephone lines for the public's call-in opinions (Arterton, 1987). Although it was able to receive 140 calls, many more citizens were unable to get through (Arterton, 1987). Besides the number of telephones, these meetings had no real impact on public policy. The chief political aide to Hawaii's governor and his press secretary said they had not heard the results the ETMs (Arterton, 1987, p. 91). This may be due to another one of the program's problems. The major newspaper's news desk refused to publish the results because the ETMs did not use a random sampling method (Arterton, 1987). Therefore, the results are biased and unscientific. According to Arterton, the final problem is that agenda-setting power lies with the message's originator rather than with the public. Therefore, the public is not allowed to openly debate any issue they want but are restricted to the issue and points of view presented to them. This confinement, then, closely matches the traditional classroom in which the teacher has the power and students are subordinates who may not express opposing viewpoints.

Interactive Cable

San Antonio, Texas

In September 1997, San Antonio had its first electronic town meeting (ETM) using its new interactive cable system. The two-hour deliberation on health care featured two moderators and an eight-person panel of ordinary citizens. According to Schwartz, viewers were shown mini-documentaries about each of the seven options for cutting health care costs. After each documentary, the eight citizens debated the merits and deficiencies of each option. During these debates, viewers used remote controls to vote on which of the seven options offered the best solution (Schwartz, 1998).

Considering that the San Antonio ETM let citizens directly vote on a health care option, it corresponds to the direct democratic model. As for its interactive attributes, San Antonio was a low feedback and a low synchronicity network because viewers were unable to verbally respond to the debate and most votes were counted at a later date.

Benefits of the meeting

Schwartz (1998) found two key benefits to this form of ETM. First, the deliberation taught citizens about the complexities of health care and the obstacles policymakers must overcome to reform it. Secondly, many viewers changed their opinions over the course of the deliberation. Therefore, it would seem that the citizens were educated, and the deliberation had a direct effect on their opinions. Furthermore, in terms of access, San Antonio also provided mail-in newspaper ballots for households who did not have the remote cable gear.

Problems with the meeting

Even though the deliberation educated the citizens and shifted public opinion, Schwartz (1998) found that it had some problems. Because they used ordinary citizens in the deliberation (rather than prominent opinion leaders), many were not articulate or telegenic, so it was harder to attract channel-surfers to the station. In addition, only 200 of the 18,000 San Antonio households participating were selected in a cross-sectional sample that had their opinions immediately computed and flashed on the screen. Meanwhile, the remaining households' votes were tabulated at a later date. Finally, message senders solely held the agenda-setting power.

Recommendations

Based on the theoretical examination and case study analysis, the following recommendation list has been compiled for those interested in utilizing new media in teledemocracy programs. While by no means complete, these bullets identify major points in developing an effective electronic town meeting project.

(1) Educate Citizens:

Inevitably, the most successful teledemocracy programs have been those that engaged citizens at all levels. Providing them with background information about community issues and concerns is necessary to acquire higher participation rates. Most definitions of democracy assume an informed electorate, and project resources should be allocated to accomplish this task.

(2) Define Conceptual Goals of Project

Preplanning a teledemocracy project's main objectives is an integral component for a successful civic empowerment program. Generating specific goals is important because they influence decisions about the choice of technology and the structure of the communications network. Assessment of project effectiveness also becomes easier when program objectives are explicitly made.

(3) Match Interactive Attributes of Technology w/ Conceptual Objectives

Merely outlining the goals of a teledemocracy program is fruitless unless it is incorporated into all stages of the development process, especially in the selection of equipment. The fastest and most advanced systems will not always be the most efficient. For example, building an elaborate communications network in a direct democracy model wastes valuable money that could be used for enhancement in other areas of the program—such as newspaper advertising to attract more citizens. Use technology that is appropriate for your audience and the system will have a greater chance of flourishing.

(4) Accessibility

Universal access is a key objective in any effective teledemocracy project. This means taking immediate actions to ensure that equipment is readily available to underrepresented groups. Such actions might include conducting randomly sampled surveys to assess the needs of people from all socioeconomic groups. The goal of the electronic town meeting is to extend civic life and not create another domain of "haves" and "have nots." Consequently, choosing less advanced technology such as the telephone may be desirable since it is easily available to nearly all members of a community. However, this may soon change with the rapid growth of the Internet. From 1997 to the present, there was a six

million increase in the number of adult Internet users in the U S., and now more than 30 percent of the population uses the Internet (Intelliquest, 1998).

(5) Create Symbiotic Relationships Among Participants

The relationships among project designers, politicians, public, media, opinion leaders, and technical advisors must be mutually beneficial partnerships to secure a program's success. Our case study analysis demonstrates that teledemocracy projects were more likely to succeed when the opinions of all major players were given equal attention. This means letting the public, as well politicians, set the agenda of issues for meetings. Agenda setting power must be equitable to prevent apathy and disinterest among participants.

(6) Do Not Charge Citizens

Citizens involved in electronic town meetings should not be required to pay any fees or charges for their participation. In other words, requiring expensive purchases of equipment to get involved should be eliminated. For example, a computer network should be accessible to citizens for free in public areas such as libraries and city halls and not just for those with their own home computers. Teledemocracy programs were not conceived to be cash cows for governmental agencies but empowerment entities for the whole communities.

(7) Have an Assessment Plan

Like any program, some test must be created for evaluating the successes and failures of teledemocracy plans. Calculating participation rates is not sufficient. Evaluation must be ongoing where system coordinators are continuously refining the program. Asking users how satisfied they are with the program and performing cost/benefits analyses are potent techniques for assessing the performances of teledemocracy networks.

(8) Consult with Institutions of Higher Learning

Because public opinion of media and politicians is typically skeptical, local universities can often act as the best managers of teledemocracy programs. They can serve as the coordinating liaison for the following major constituencies that should be contacted when planning electronic town meetings: politicians, mass media, community leaders, citizens, and technical advisors. People are more likely to become associated with projects sponsored by universities because most members of the aforementioned constituencies consider them neutral and objective institutions.

Conclusion

In summary, the media, politicians, and educators have accented the use of new communication technologies in primary, secondary, and higher education for many years now, but they have paid little attention to using these technologies for civic education. Moreover, those who have suggested using new media technologies for civic education often relegate themselves to either theoretical or practical matters and fail to incorporate both aspects. By examining both the theoretical questions and some representative teledemocracy case studies, this paper bridged the gap between theory and application to provide suggestions for future civic education programs.

Aside from this paper's recommendations based on theory and practice, this paper advances a novel approach to civic education—the inclusion of local universities and colleges. These institutions of higher learning provide several advantages for civic education including the ability to furnish graduate students who are skilled in new media technologies and work for free to coordinate the program and their images as neutral and objective purveyors of erudition.

Ultimately, this paper added two crucial elements to the scholarship. It revealed how new media technologies and distance education can be used beyond the traditional classroom and provided new insight for implementing an effective teledemocracy project.

Figures & Tables

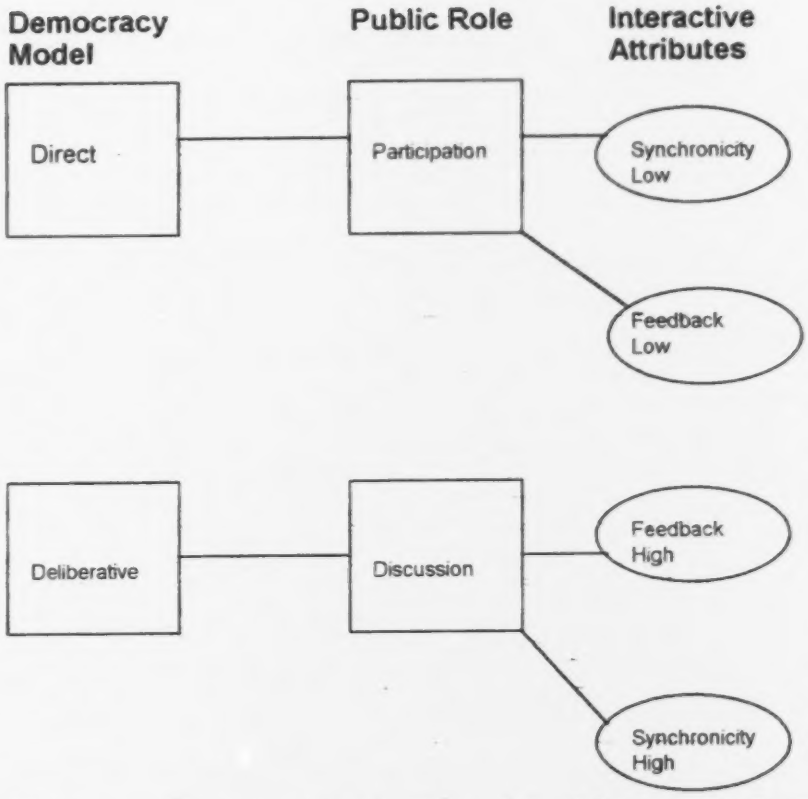

Figure 1: Theoretical Implications for Selecting Teledemocracy Technology

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Site	Democratic Model	Public Role	Interactive Attributes	Medium	Pros	Cons
Santa Monica	Deliberative	Discussion	High Feedback High & Low Synchronicity	Internet	• Direct gov't access • Constant availability • Eliminate social barriers • Helps housebound • Direct impact • Education • Agenda setting	• Balance First Amendment rights and discussion flow • Men harassing women • Rude users • Few public officials use it
Alaska	Deliberative	Discussion	High Feedback High Synchronicity (LTN) Low Synchronicity (LIN)	Interactive Video and Internet	• Education through diversity of viewpoints • Direct impact • High participation • Saves state money • Access	• Agenda setting (LTN) • Convenience
North Carolina	Deliberative	Discussion	High Feedback High Synchronicity	Video and Telephone	• Education • Protects fairness and neutrality • Use readily accessible mediums • Convenience • Agenda setting	• Reach • Lack of participation
San Antonio	Direct	Participation	Low Feedback Low Synchronicity	Video and Televote	• Education • Direct impact • Access	• Hard to capture attention • Delayed vote tabulation • Agenda setting
Honolulu	Direct	Participation	Low Feedback Low Synchronicity	Video and Televote	• Uses readily accessible mediums • Convenience • Creatively captures attention • Education	• Inadequate phone system • No impact • Lack of credibility • Agenda setting

Table 1

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End Notes

[i] Generally, when we mention "teledemocracy," "televoting," or "electronic town meetings," we are referring to community civic programs that use communications technology to expand political participation ranging from facilitating community discussion to directly legislating bills. Typically, these programs exist on a local level, but some also exist on the state level.

[ii] Although there are many essential conceptual questions we could focus on, this theoretical section will primarily center on democracy and interactivity to keep paper length concise. Further, our purpose is to offer a brief overview of teledemocracy in practical terms, not an academic or technical treatise for experts.

[iii] Obviously, this is a simplistic categorization of democracy, but generally captures the underlying themes of the electronic town meeting model.

[iv] Traditional classroom settings refers to a bureaucratic, polemic lecture rather than a classroom in which discussion dominates (see McKeachie, 1994, and Frieiman, 1976).

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